

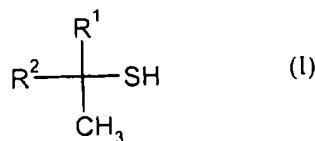
Claims

1. Use of a mixture containing
  - A) at least two different acrylic acid C<sub>1</sub>-C<sub>6</sub> alkyl esters;
  - 5 B) at least one compound from the group comprising C<sub>1</sub>-C<sub>8</sub> mercaptans, C<sub>4</sub>-C<sub>12</sub> thiophenes, C<sub>2</sub>-C<sub>8</sub> sulfides or C<sub>2</sub>-C<sub>8</sub> disulfides;
  - C) at least one compound from the group comprising norbornenes, C<sub>1</sub>-C<sub>6</sub> carboxylic acids, C<sub>1</sub>-C<sub>8</sub> aldehydes, C<sub>6</sub>-C<sub>14</sub> phenols, C<sub>7</sub>-C<sub>14</sub> anisoles or C<sub>4</sub>-C<sub>14</sub> pyrazines;
  - 10 D) optionally an antioxidant

for the odourisation of fuel gas having a methane content of at least 60 wt.%.

2. Use according to claim 1, wherein the mixture contains
  - A) at least two different acrylic acid C<sub>1</sub>-C<sub>4</sub> alkyl esters;
  - B) at least one compound from the group comprising C<sub>1</sub>-C<sub>8</sub> mercaptans, C<sub>4</sub>-C<sub>8</sub> thiophenes, C<sub>2</sub>-C<sub>8</sub> sulfides or C<sub>2</sub>-C<sub>8</sub> disulfides;
  - 15 C) at least one compound from the group comprising norbornenes, C<sub>2</sub>-C<sub>5</sub> carboxylic acids, C<sub>2</sub>-C<sub>5</sub> aldehydes, C<sub>6</sub>-C<sub>10</sub> phenols, C<sub>7</sub>-C<sub>10</sub> anisoles or C<sub>4</sub>-C<sub>10</sub> pyrazines and
  - D) at least one antioxidant.
- 20 3. Use according to claim 1, wherein the mixture contains
  - A) acrylic acid methyl ester and acrylic acid ethyl ester;
  - B) at least one compound from the group comprising thiophene, tetrahydrothiophene, dimethyl sulfide, diethyl sulfide, di-n-propyl sulfide,

diisopropyl sulfide, dimethyl disulfide, diethyl disulfide, di-n-propyl disulfide, diisopropyl disulfide or the mercaptans having the formula (I)



5       wherein

R¹ denotes hydrogen, methyl or ethyl, preferably methyl, and

R² denotes an alkyl group having 1 to 4 carbon atoms, preferably methyl, ethyl, isopropyl, isobutyl or tert-butyl;

- 10      C) at least one compound from the group comprising C<sub>2</sub>-C<sub>5</sub> carboxylic acids, C<sub>3</sub>-C<sub>5</sub> aldehydes, C<sub>1</sub>-C<sub>4</sub> monoalkylated phenols and  
D) at least one antioxidant.

4.       Use according to claim 1, wherein the mixture comprises

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- A) acrylic acid methyl ester and acrylic acid ethyl ester;  
B) tert-butyl mercaptan;  
C) at least one compound from the group comprising propionaldehyde, isovaleraldehyde, isovaleric acid, 2-ethylphenol, 4-ethylphenol and  
20      D) one or two antioxidants

or consists of these components.

5. Use according to one of claims 1 to 4, characterised in that the mixture contains as antioxidant tert-butyl hydroxytoluene or hydroquinone monomethyl ether.
- 5      6. Use according to one of claims 1 to 5, characterised in that the mixture contains:
  - 60 to 97 wt.% of component A) and/or
  - 1 to 30 wt.% of component B) and/or
  - 10     0.5 to 20 wt.% of component C) and/or
  - 0.01 to 2 wt.% of component D).
- 15     7. Use according to one of claims 1 to 5, characterised in that the mixture contains:
  - 70 to 95 wt.% of components A) and/or
  - 2 to 25 wt.% of components B) and/or
  - 1 to 10 wt.% of components C) and/or
  - 0.02 to 1 wt.% of components D).
- 20     8. Use according to at least one of claims 1 to 7, characterised in that the ratio by weight of component B) to component C) is in the range from 6 : 1 to 1 : 3.
- 25     9. Fuel gas with a methane content of at least 60 wt.%, containing a mixture as defined in one of claims 1 to 8.
10. Fuel gas according to claim 9, characterised in that the fuel gas is natural gas.

11. Process for the odorisation of fuel gas having a methane content of at least 60 wt.%, characterised in that a mixture as defined in one of claims 1 to 8 is added to the fuel gas.

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12. Process according to claim 11, characterised in that the mixture is added to the fuel gas in a quantity of 5 to 100 mg per m<sup>3</sup> of gas.